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Georgann S. Grunebach, Reg. No. 33,179  
(Printed Name of Depositor)

June 19, 2007  
(Date of Signature)

Re: Serial No. 09/940,141  
Filing Date: August 23, 2001

Attorney Docket No. PD-201118

Please find attached:

- TRANSMITTAL FORM PTO/SB/21 (1 page)
- AMENDED APPEAL BRIEF IN RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF DATED MAY 22, 2007 (21 pages)

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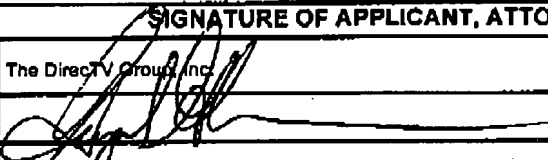
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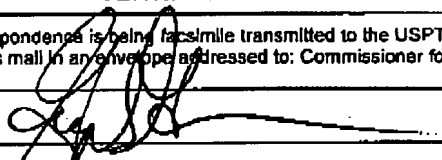
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<b>TRANSMITTAL FORM</b>  <i>(to be used for all correspondence after initial filing)</i>	Application Number	08/040,141	
	Filing Date	August 23, 2001	
	First Named Inventor	Douglas A. Chelline	
	Art Unit	2144	
	Examiner Name	PELING, Andy Shaw	
Total Number of Pages in This Submission	22	Attorney Docket Number	PD-201118

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Georgann S. Grunebach, Reg. No. 33,179**PATENT**  
**PD-201118**  
**CUSTOMER NO.: 020991****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicants:** Douglas A. Cheline, et al.  
**Serial No.:** 09/940,141  
**Filed:** August 23, 2001  
**For:** Single-Modem Multi-User Virtual Private Network  
**TC/A.U.:** 2144  
**Examiner:** Peling Andy Shaw  
**Attorney Docket No.:** PD-201118

**AMENDED APPEAL BRIEF**

Mail Stop Appeal Brief - Patents  
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In response to the Notification of Non-compliant Appeal Brief dated May 22, 2007 and pursuant to 37 C.F.R. §41.37, the Applicants hereby respectfully submit the following amended Brief in support of their appeal.

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**I. Real Party in Interest**

The DirecTV Group, Inc., a Delaware corporation, is the Real Party in Interest.

**II. Related Appeals and Interferences**

There are no known related appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the present appeal.

**III. Status of Claims**

Claims 1-9, 11-20, and 22-23 are pending and are the subject matter of this appeal. All of these claims are under final rejection. Claims 10 and 21 have been previously canceled.

**IV. Status of Amendments**

An amendment was filed on May 9, 2006 (subsequent to the final rejection). This amendment was entered by the Examiner.

**V. Summary of Claimed Subject Matter**

Virtual Private Networks (VPNs) are private data networks that make use of tunnels to maintain privacy when communicating over a public telecommunication infrastructure such as the Internet.<sup>1</sup> VPNs give server operators, such as corporations, the same capabilities and security that they would have if they used a private or switched network to conduct communications.<sup>2</sup>

Modems are used to communicate between different entities in networks. For instance, a computer might use a modem to establish a connection with the Internet.<sup>3</sup> Unfortunately, in previous systems, multiple clients to the same client-side modem were not allowed to establish multiple VPN communication tunnels using the single modem. For

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<sup>1</sup> App. as filed, see at least page 2, line 25 – page 3, line 5.

<sup>2</sup> App. see at least page 3, lines 2-25.

<sup>3</sup> App. see at least FIGS. 1-2; and page 3, lines 26 – page 4, line 5; page 8, lines 23-32; page 9, lines 18-20; page 14, lines 15 – page 15, line 9.

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instance, a husband and wife may have both wanted to telecommute with their offices from home using secure connections. However, previous approaches required both the husband and wife to purchase separate modems and utilize separate telephone lines. The additional modems were expensive to purchase and the added telephone lines increased inefficiencies in the overall system.<sup>4</sup>

The Applicants overcome the shortcomings of these previous approaches by providing approaches whereby a client computer is coupled to a single modem within the client-side system.<sup>5</sup> Independent claim 1 recites that a request to establish a VPN session with a server-side system is received from a client computer and the request contains login details associated with a user at the computer.<sup>6</sup> A network address of the client computer is determined and the user is authenticated based on the login details.<sup>7</sup> A VPN tunnel is established between the client computer and the server-side system over the modem.<sup>8</sup>

Thereafter, a new request is received to establish a new VPN session with a different server-side system from a different client computer that is connected to the same modem in the client-side system.<sup>9</sup> The request contains new login details associated with the different computer.<sup>10</sup> A new network address of the different computer is determined and the new user is authenticated based upon these new login details.<sup>11</sup> A new VPN tunnel is established between the different client computer having the new network address and the new server side system.<sup>12</sup>

4 App. see at least page 3, line 26 – page 4, line 7.

5 App. see at least FIGS. 1-2, 4A; page 8, line 15 – page 9, line 6; page 10, lines 1-3.

6 App. see for example FIGS. 1-2, 3B and 6; page 8, lines 23-28; page 9, lines 1-19; page 15, lines 5-9; page 18, lines 7-14; page 19, line 30 – page 20, line 18.

7 App. see at least FIGS. 1-2 and 3B-3C; page 15, lines 10-32; page 16, line 1 – page 17, line 16; page 20, lines 5-32; page 21, line 27 – page 23, line 10.

8 App. see at least FIGS. 1-2, 3A-D and 4A-C; page 11, lines 21-23; page 12, line 22 – page 13, line 2; page 17, line 32 – page 18, line 25; page 18, line 26 – page 26, line 27; page 21, lines 3-10; page 23, line 19 – page 24, line 19.

9 App. see for example FIGS. 4A-C and 5A-C; page 21, line 21 – page 26, line 27; page 26, line 27 – page 30, line 11.

10 App. see at least FIGS. 1-2, 3B and 6; page 8, lines 23-28; page 9, lines 1-19; page 15, lines 5-9; page 18, lines 7-14; page 19, line 30 – page 20, line 18; page 24, lines 22-26.

11 App. see at least FIGS. 1-2, 3A-D and 4A-C; page 11, lines 21-23; page 12, line 22 – page 13, line 2; page 17, line 32 – page 18, line 25; page 18, line 26 – page 26, line 27; page 21, lines 3-10; page 23, line 19 – page 24, line 19; page 24, lines 22-30; page 25, line 1 – page 26, line 27.

12 App. See at least FIGS. 4A-C; page 23, lines 19-27 and page 24, lines 20-24.

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Independent claim 13 recites computer instructions for performing the above mentioned steps of claim 1. Support for these instructions is contained at the same places in the Specification mentioned above with respect to claim 1.

Additionally, independent claim 11 recites the same steps as claim 1 except that a request is received to establish a VPN tunnel between the different client computer and the original server side system and the new VPN tunnel is established between the different client computer having the new network address and the original server side system.<sup>13</sup>

Independent claim 22 recites computer instructions for performing the above mentioned steps of claim 11. Support for these instructions is contained at the same places in the Specification mentioned above with respect to claim 11.

Using these approaches, separate tunnels are constructed over the same modem.<sup>14</sup> Consequently, the need for extra hardware (i.e., modems) is eliminated and system efficiency is enhanced.

As shown in FIG. 1 of the application, reproduced below for the convenience of the reader, a system 100 comprises a client-side system 108, a service provider system 146, and a server side system 130.<sup>15</sup> The client side system includes multiple clients 102.<sup>16</sup> Separate tunnels are established between different ones of these clients and the server side system.<sup>17</sup> For instance, a tunnel may be established between the client 102(1) and the server side system 130. At the same time, a different tunnel may be established between the client 102(2) and the server side system 130.<sup>18</sup> The tunnels are constructed over the same modem 106 of the client-side system 108.<sup>19</sup>

To take one example using the system of FIG. 1, a husband can operate and conduct communications from a computer 102(1) and his wife can operate and conduct communications from a different computer 102(2). Using the Applicants' approaches, a tunnel may be established between the client 102(1) (i.e., the husband) and the server side

13 App. See at least FIGS. 4A-C; page 23, lines 19-27 and page 24, lines 20-24.

14 App. see for example page 21, lines 11-20; page 23, lines 19-27, page 24, lines 20-24, and page 26, lines 21-27.

15 App. see for example FIG. 1; page 8, line 15 – page 14, line 14.

16 App. see at least FIG. 1; page 8, line 23 – page 9, line 19.

17 App. see at least FIGS. 1-2, 3A-D and 4A-C; page 11, lines 21-23; page 12, line 22 – page 13, line 2; page 17, line 32 – page 18, line 25; page 21, lines 3-10; page 23, line 19 – page 24, line 19.

18 App. see for example FIGS. 3A-3D and 4A-4C; page 24, lines 20-30.

19 App. see at least FIGS. 3A-3D, 4A-4C and 5A-5C; page 11, lines 21-23; page 12, line 22 – page 13, line 2;

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system 130. Thereafter, a different tunnel may be established between the client 102(2) (i.e., the wife) and the server side system 130. Both tunnels are constructed using the same modem 106 within the client-side system 108.<sup>20</sup>

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page 17, line 32 – page 18, line 25; page 18, line 26 – page 26, line 27.  
20 App. see at least FIGS. 1-2, 3A-3D, 4A-4C and 5A-5C; page 11, lines 21-23; page 12, line 22 – page 13, line 2; page 17, line 32 – page 18, line 25; page 18, line 26 – page 26, line 27.

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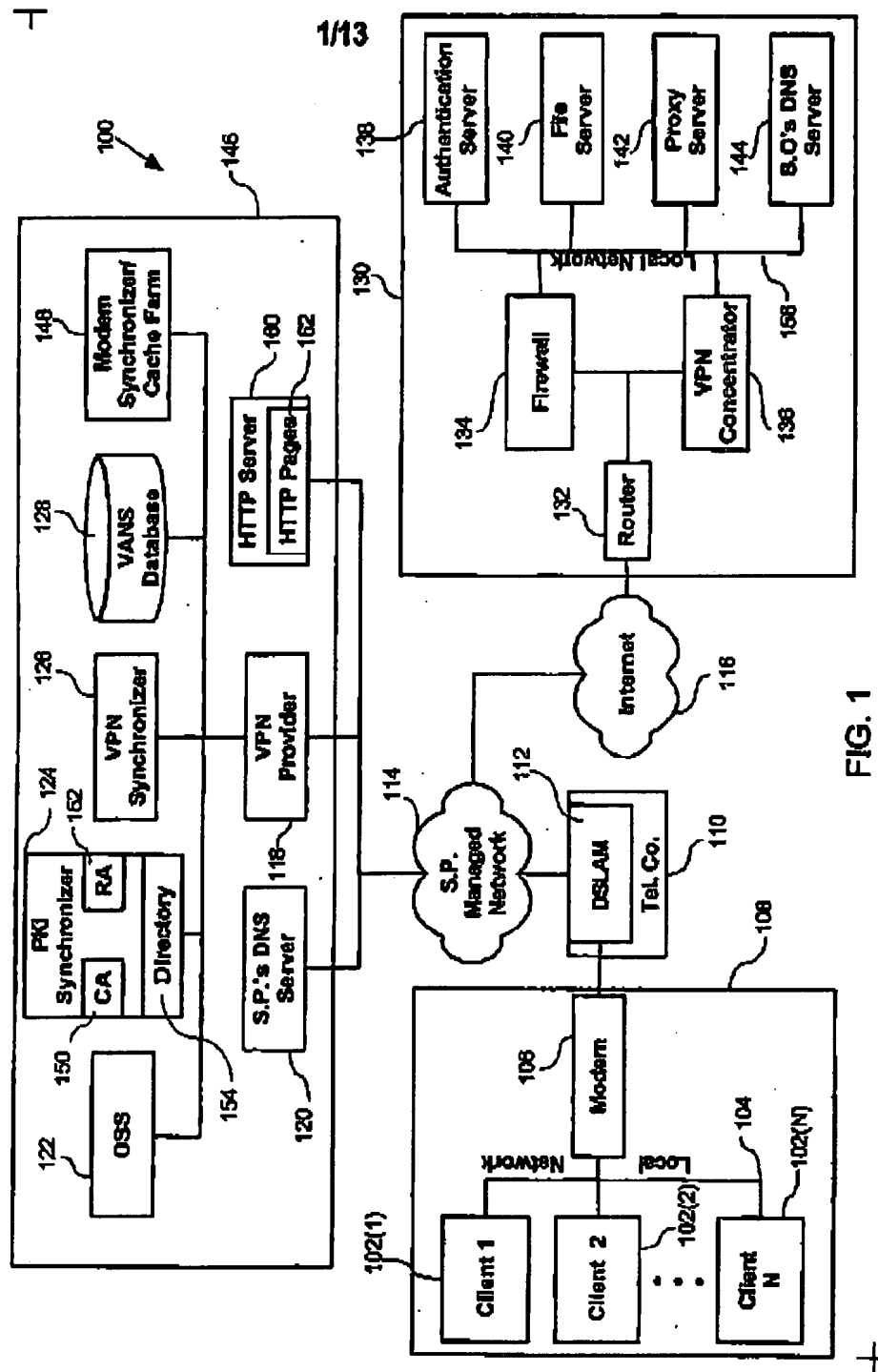


FIG. 1



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**VI. Grounds of Rejection to be Reviewed on Appeal**

(A) Whether Claims 1-5, 8-9, 11-16, 19-20 and 22-23 are anticipated under 35 U.S.C. §102 by U.S. Published Application 2002/0178361 to Gentry ("the Gentry application")?

(B) Whether claims 6 and 17 are unpatentable under 35 U.S.C. §103 over Gentry?

(C) Whether claims 7 and 18 are unpatentable under 35 U.S.C. §103 over Gentry in view of U.S. Published Application 2002/0169988 to Vandergeest?

**VII. Argument****(A) Claims 1-5, 8-9, 11-16, 19-20 and 22-23 are Not Anticipated by Gentry**

Claim 1 is an independent method claim and recites:

1. A computer implemented method for establishing a Virtual Private Network (VPN) communication tunnel between a client computer and a server-side system, comprising:

- receiving a request to establish a VPN session with a server-side system from at least one client computer out of a plurality of client computers coupled to a modem within a client-side system, where said request contains login details for a user of said at least one client computer;
- determining a network address of said at least one client computer;
- authenticating said user based on said user login details;
- establishing a VPN tunnel between said at least one client computer having said network address and said server-side system, where said VPN tunnel is established over said modem;
- receiving a new request to establish a new VPN session with a different server-side system from a different client computer out of said plurality of client computers coupled to said modem within said client-side system, where said request contains new login details for a new user of said different client computer;
- determining a new network address of said different client computer;
- authenticating said new user based on said new user login details; and
- establishing a new VPN tunnel between said different client computer having said new network address and

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said new server-side system, where said VPN tunnel is established over said modem.

In other words, the Applicants claim establishing two tunnels between two different client computers and two different server side systems. Each of the different tunnels is also established with different login details.

Without issuing a specific rejection, the Examiner hinted that the above recitations are not supported in the Specification. Specifically, the Examiner stated in the Advisory Action that "[t]here is no specific saying [in the specification] that the connection would happen at the same time over the same modem. There is no specific saying if additional consideration is required in applying the method for more than one computer." The Applicants respectfully disagree with these assertions.

Specifically, at page 3, lines 26-29 the Applicants state that current systems "do not allow multiple clients coupled to the same client side modem to establish multiple communication tunnels over the same modem." At page 6, lines 27-29, the Applicants state that "a VPN system is established that allows multiple clients coupled to the same client side modem to establish multiple VPN communication tunnels over the same modem." In addition, FIGs. 4a-c, "are flow charts of a method 400 for establishing multiple VPN tunnels over a single modem." Specification, page 21, lines 21-22. These flow charts show the establishment of a tunnel. Given the above-mentioned language, the approaches of FIGs. 4a-c can be repeatedly used to establish further tunnels. Consequently, the Applicants assert that the claim language recited in claim 1 is fully supported by the Specification.

In his rejections, the Examiner asserted that FIGs. 1 and 2 of Gentry included all elements of claim 1. Additionally, with respect to FIG. 1 of Gentry, the Examiner stated that "FIG. 1 shows that multiple connections are together, i.e., at the same location, it is clear that VPNs are for multiple computers at the same time and same location. As Gentry teaches sharing the Internet, it is clear that using the same WAN is intended... In summary Gentry does show sharing the Internet... in providing VPN connections for multiple computers and eliminating traditional leased lines over WAN; the WAN is over ISDN, i.e., a modem." The Applicants respectfully disagree with these rejections and statements and assert that claim 1 is allowable over Gentry.

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Specifically, FIG. 1 of Gentry (reproduced below for the convenience of the reader) shows a single computer system 100 communicating with multiple VPNs 120, 140 and 160. Gentry shows that the computer system 100 can communicate with the multiple VPNs by establishing multiple tunnels, one corresponding to each VPN (see Gentry paragraph 39).

Each VPN 120, 140, and 160 is shown as including multiple computers. However, only one connection is shown from each of the VPNs 120, 140, and 160. Gentry is silent as to establishing *two separate* connections from *two separate* computers from the *same* client side system (e.g., VPN) as recited in claim 1. In fact, as shown in FIG. 1 of Gentry, the connection to each VPN 120, 140, or 160 is a connection to a *single* computer 130, 150, or 170 within each VPN.

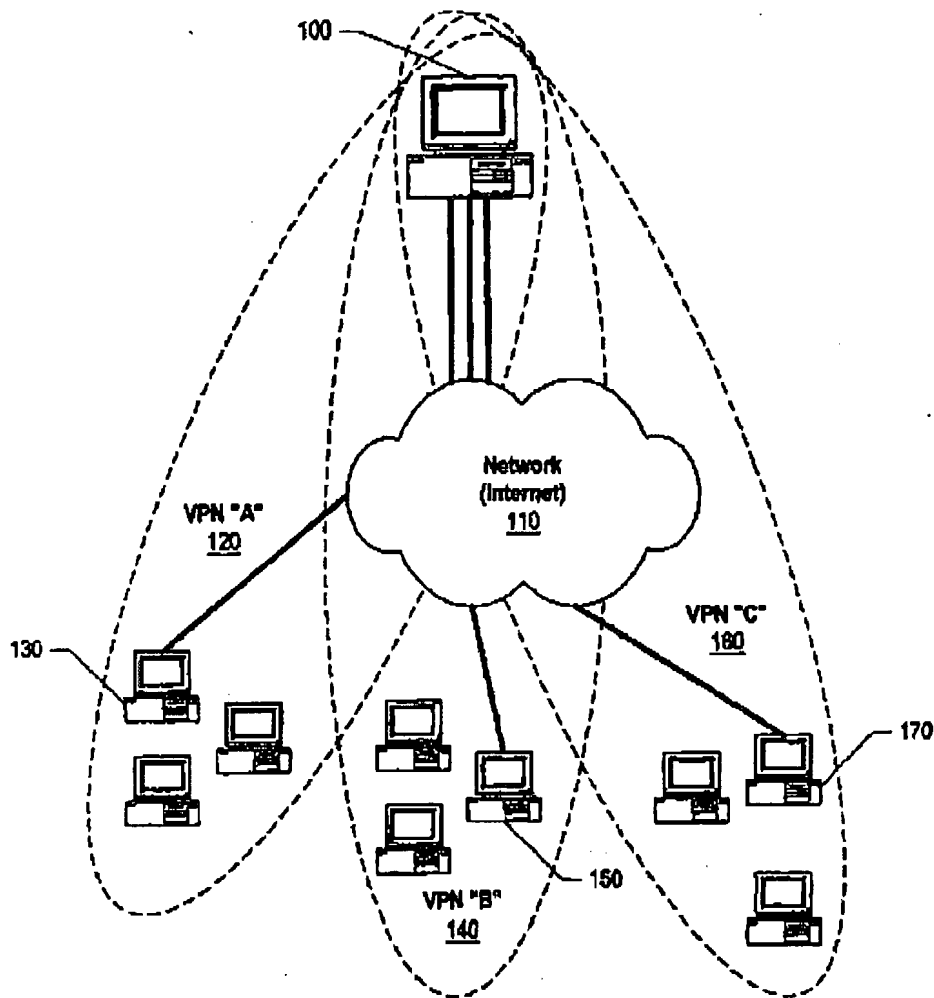
Additionally, the connections from the VPNs 120, 140, and 160 are to the same computer system 100, not to *different* server side systems, as recited in claim 1.

Moreover, there is no teaching in Gentry that any of the multiple connections would use the same modem. In fact, since each tunnel is from a separate VPN and each VPN must communicate with the Internet 110, separate modems must be used to forward the communications to the Internet 110. This is exactly the opposite of the approach recited in claim 1, where a single modem carrying multiple connections is recited.

Furthermore, although three connections are shown originating from the Internet 110, there is no indication these are made from the same modem. In any case, the modem recited in claim 1 is positioned within a client-side system (i.e., VPNs 120, 140, or 160), not within an intermediate network (i.e., the Internet 110).

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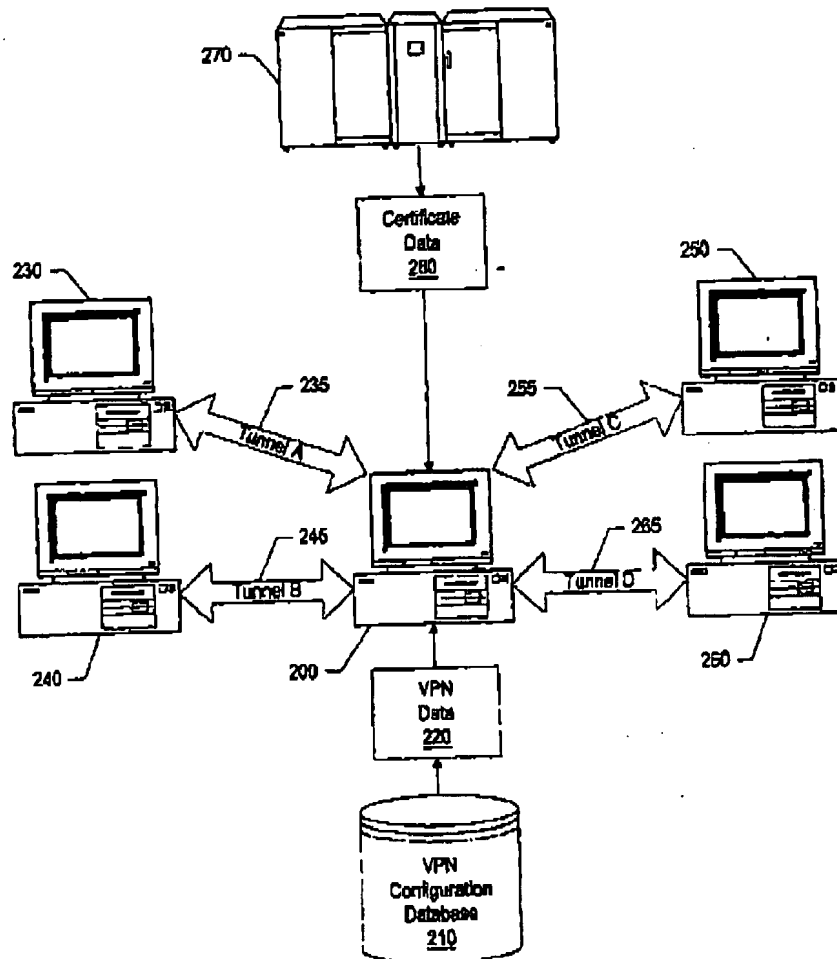
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**Figure 1**

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The system illustrated in FIG. 2 of Gentry also does not contain various elements recited in claim 1. Specifically, FIG. 2 of Gentry (reproduced below for the convenience of the reader) shows a single computer 200 communicating with multiple computers 230, 240, 250, and 260. As shown in FIG. 2, single tunnels 235, 245, 255, and 265 connect one computer 200 to computers 230, 240, 250, and 260. All the computers shown in FIG. 2 are located at the same site (i.e., within the same VPN). In other words, there is no indication that different client side computers are coupled to different server side system computers using different tunnels as recited in claim 1.

**Figure 2**

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In both of these examples (shown in FIGs. 1 and 2 of Gentry), there is no teaching or suggestion in Gentry of different client computers communicating with different server side computers using the same modem. Consequently, the Applicants assert that claim 1 includes elements not taught or suggested by Gentry and that claim 1 is allowable over Gentry.

Claims 13 and 22 have recitations similar to claim 1 and the Applicants assert that claims 13 and 22 are allowable for the same reasons as given above with respect to claim 1. Claims 2-4, 8-9, 11-12, 14-16, 19-20, and 23 ultimately depend upon claims 1, 13, or 22 which have been shown to be allowable above, and therefore, these claims are also allowable. In addition, they introduce additional content that, particularly when considered in context with the claims from which they depend, introduce additional incremental patentable subject matter. Accordingly, the Applicants reserve the right to present further arguments in the future with regard to these dependent claims if independent claims 1, 13, or 22 are found to be unpatentable. In view of the foregoing, the Applicants assert that claims 1-5, 8-9, 11-16, 19-20 and 22-23 are allowable.

**(B) Claims 6 and 17 are Allowable over Gentry**

Claims 6 and 17 ultimately depend upon claims 1 and 13, which have been shown to be allowable above, and therefore, these claims are also allowable. In addition, they introduce additional content that, particularly when considered in context with the claims from which they depend, introduce additional incremental patentable subject matter. Accordingly, the Applicants reserve the right to present further arguments in the future with regard to these dependent claims if independent claims 1 and 13 are found to be unpatentable. In view of the foregoing, the Applicants assert that claims 6 and 17 are allowable.

**(C) Claims 7 and 18 are Allowable over Gentry in view of Vandergeest**

Claims 7 and 18 ultimately depend upon claims 1 and 13, which have been shown to be allowable above, and therefore, these claims are also allowable. In addition, they introduce additional content that, particularly when considered in context with the claims from which they depend, introduce additional incremental patentable subject matter. Accordingly, the Applicants reserve the right to present further arguments in the future with

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regard to these dependent claims if independent claims 1 and 13 are found to be unpatentable.  
In view of the foregoing, the Applicants assert that claims 7 and 18 are allowable.

Conclusion

In view of the foregoing, it is submitted that the application is in condition for allowance which is respectfully requested. The Commissioner is hereby authorized to charge any additional fees which may be required to Deposit Account No. 50-0383.

Respectfully submitted,

By: 

Georgann S. Grunebach  
Registration No. 33,179

Date: June 19, 2007

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**VIII. Claims Appendix**

**Claim 1 (Previously presented):** A computer implemented method for establishing a Virtual Private Network (VPN) communication tunnel between a client computer and a server-side system, comprising:

receiving a request to establish a VPN session with a server-side system from at least one client computer out of a plurality of client computers coupled to a modem within a client-side system, where said request contains login details for a user of said at least one client computer;

determining a network address of said at least one client computer;

authenticating said user based on said user login details;

establishing a VPN tunnel between said at least one client computer having said network address and said server-side system, where said VPN tunnel is established over said modem;

receiving a new request to establish a new VPN session with a different server-side system from a different client computer out of said plurality of client computers coupled to said modem within said client-side system, where said request contains new login details for a new user of said different client computer;

determining a new network address of said different client computer;

authenticating said new user based on said new user login details; and

establishing a new VPN tunnel between said different client computer having said new network address and said new server-side system, where said VPN tunnel is established over said modem.

**Claim 2 (Original):** The computer implemented method of claim 1, wherein said receiving further comprises obtaining security details from said client.

**Claim 3 (Original):** The computer implemented method of claim 1, wherein said determining further comprises reading a connection log to extract the network address of said at least one client computer.



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Claim 4 (Original): The computer implemented method of claim 1, further comprising the step, after said determining step, of storing said network address.

Claim 5 (Original): The computer implemented method of claim 1, wherein said authenticating further comprises the steps of:

transmitting said login details to an authentication server for authentication;

and

accepting an authentication response from said server.

Claim 6 (Original): The computer implemented method of claim 5, wherein said transmitting further comprises sending said login details to a Radius server.

Claim 7 (Original): The computer implemented method of claim 1, wherein said authenticating step further comprises the steps of:

transmitting said login details to an authentication server for authentication;

accepting a challenge from said server; and

re-transmitting said login details to said authentication server for authentication.

Claim 8 (Original): The computer implemented method of claim 1, wherein said determining further comprises ascertaining an Internet Protocol (IP) address of said client.

Claim 9 (Original): The computer implemented method of claim 1, wherein said determining further comprises ascertaining a Media Access Control (MAC) address of said client.

Claim 10 (Canceled)

Claim 11 (Previously presented): A computer implemented method for establishing a Virtual Private Network (VPN) communication tunnel between a client computer and a server-side system, comprising:

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receiving a request to establish a VPN session with a server-side system from at least one client computer out of a plurality of client computers coupled to a modem within a client-side system, where said request contains login details for a user of said at least one client computer;

determining a network address of said at least one client computer;

authenticating said user based on said user login details;

establishing a VPN tunnel between said at least one client computer having said network address and said server-side system, where said VPN tunnel is established over said modem;

receiving a new request to establish a new VPN session with said server-side system from a different client computer out of said plurality of client computers coupled to said modem within said client-side system, where said request contains new login details for a new user of said different client computer;

determining a new network address of said different client computer,

authenticating said new user based on said new user login details; and

establishing a new VPN tunnel between said different client computer having said new network address and said server-side system, where said VPN tunnel is established over said modem.

Claim 12 (Original): The computer implemented method of claim 1, further comprising severing the VPN tunnel after a predetermined time of inactivity.

Claim 13 (Previously presented): A computer program product for use in conjunction with a computer system for establishing a Virtual Private Network (VPN) communication tunnel between a client computer and a server-side system, the computer program product comprising a computer readable storage and a computer program embedded therein, the computer program comprising:

instructions for receiving a request to establish a VPN session with a server side system from at least one client computer out of a plurality of client computers coupled to a modem within a client-side system, where said request contains login details for a user of said at least one client computer;

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instructions for determining a network address of said at least one client computer;

instructions for authenticating said user based on said user login details;

instructions for establishing a VPN tunnel between said at least one client computer having said network address and said server-side system, where said VPN tunnel is established over said modem;

instructions for receiving a new request to establish a new VPN session with a different server-side system from a different client computer out of said plurality of client computers coupled to said modem within said client side system, where said request contains new login details for a new user of said different client computer;

instructions for determining a new network address of said different client computer;

Instructions for authenticating said new user based on said new user login details; and

instructions for establishing a new VPN tunnel between said different client computer having said new network address and said new server side system, where said VPN tunnel is established over said modem.

Claim 14 (Original): The computer program product of claim 13, wherein said instructions for determining further comprise instructions for reading a connection log to extract the network address of said at least one client computer.

Claim 15 (Original): The computer program product of claim 13, wherein said computer program further comprises instructions for storing said network address.

Claim 16 (Original): The computer program product of claim 13, wherein said instructions for authenticating further comprise:

instructions for transmitting said login details to an authentication server for authentication; and

instructions for accepting an authentication response from said server.

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Claim 17 (Original): The computer program product of claim 13, wherein said instructions for transmitting further comprise instructions for sending said login details to a Radius server.

Claim 18 (Original): The computer program product of claim 13, wherein said instructions for authenticating further comprise:

instructions for transmitting said login details to an authentication server for authentication;

instructions for accepting a challenge from said server; and

instructions for re-transmitting said login details to said authentication server for authentication.

Claim 19 (Original): The computer program product of claim 13, wherein said instructions for determining further comprise instructions for ascertaining an Internet Protocol (IP) address of said client.

Claim 20 (Original): The computer program product of claim 13, wherein said instructions for determining further comprise instructions for ascertaining a Media Access Control (MAC) address of said client.

Claim 21 (Canceled)

Claim 22 (Previously presented): A computer program product for use in conjunction with a computer system for establishing a Virtual Private Network (VPN) communication tunnel between a client computer and a server-side system, the computer program product comprising a computer readable storage and a computer program embedded therein, the computer program comprising:

instructions for receiving a request to establish a VPN session with a server side system from at least one client computer out of a plurality of client computers coupled to a modem within a client-side system, where said request contains login details for a user of said at least one client computer;

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instructions for determining a network address of said at least one client computer;

instructions for authenticating said user based on said user login details;  
instructions for establishing a VPN tunnel between said at least one client computer having said network address and said server-side system, where said VPN tunnel is established over said modem;

instructions for receiving a new request to establish a new VPN session with said server-side system from a different client computer out of said plurality of client computers coupled to said modem within said client-side system, where said request contains new login details for a new user of said different client computer;

instructions for determining a new network address of said different client computer;

instructions for authenticating said new user based on said new user login details;  
and

instructions for establishing a new VPN tunnel between said different client computer having said network address and said new server-side system, where said VPN tunnel is established over said modem.

Claim 23 (Original): The computer program product of claim 13, wherein said computer program further comprises instructions for severing the VPN tunnel after a predetermined time of inactivity.

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**IX. Evidence Appendix**

NONE

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**X. Related Proceedings Appendix**

NONE